

Listing of Claims:

Claim 1 (currently amended): A computer implemented method of controlling an analytical instrument that analyzes microfluidic devices, comprising:

receiving a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of a driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well;

for each step, applying the driving force specified by the value to the fluid in the at least one well in order to drive the fluid along a channel in the microfluidic device; and

scanning fluid as it passes a detection zone along the channel in the microfluidic device.

Claim 2 (canceled)

Claim 3 (original): The method of claim 1, wherein the value indicates a current to be applied to the fluid in the at least one well.

Claim 4 (original): The method of claim 1, wherein the value indicates a voltage to be applied to the fluid in the at least one well.

Claim 5 (original): The method of claim 1, wherein the value indicates a vacuum to be applied to the fluid in the at least one well.

Claim 6 (original): The method of claim 1, wherein the value indicates a pressure to be applied to the fluid in the at least one well.

Claim 7 (original): The method of claim 1, wherein the sequence of steps include steps that load a sample to a main channel in the microfluidic device and run the sample through the main channel past the detection zone.

Claim 8 (original): The method of claim 7, wherein at least one step simultaneously runs a first sample through the main channel and loads a second sample to the main channel.

Claim 9 (original): The method of claim 1, wherein the sequence of steps include steps that load a sample to a main channel in the microfluidic device, inject the sample into the main channel, pull back the sample from the main channel, and run the sample through the main channel past the detection zone.

Claim 10 (original): The method of claim 1, wherein the microfluidic device includes at least two intersecting microscale channels.

Claim 11 (original): The method of claim 1, wherein the sequence of steps stored on a computer readable medium and the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

Claim 12 (previously presented): A computer program product for controlling an analytical instrument that analyzes microfluidic devices, comprising:

code that includes a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of a driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well; and

a computer readable medium that stores the code.

Claim 13 (original): The computer program product of claim 12, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

Claim 14 (currently amended): A system, comprising:
an instrument that controls and analyzes a microfluidic device;

a computer including a processor and a computer readable medium, the computer being capable of directing the instrument to apply a driving force to fluid in wells of the microfluidic device; and

code stored on the computer readable medium that includes a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of the driving force to be applied to fluid in the at least one well in order to drive the fluid along a channel in the microfluidic device and a duration for applying the driving force specified by the value to the fluid in the at least one well.

Claim 15 (original): The system of claim 14, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

Claims 16-29 (canceled)